The Public Health Journal

VOL. VIII. TORONTO, CANADA, SEPTEMBER, 1917. NO. 9

Preventive Medicine

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Presidential Address, Association of Medical Health Officers of Nova Scotia, July 3, 1917.

Mr. Vice-President and Gentlemen—

My words to you on this occasion will be brief. I esteem it a privilege and honor to have been elected your president during the past year. I have been honored before as president of other medical societies during my career in the profession of medicine, but never before has so little been demanded of me in performing the duties of the office as during the time of my present incumbency. The secretary, the provincial health officer, with his usual foresight and enthusiasm, has engineered and shouldered the work of planning and carrying out the purposes of this, the third annual meeting of the Association of Medical Health Officers of Nova Scotia. When I received the program and read the names of the contributors to the subjects, I realized in advance the efficiency and success which would attend the meeting.

My object is not to address you on one specific subject only, but to present a few thoughts as they have occurred in my daily routine in trying to advance the aim and objects of the Association—"Preventive medicine." The doctor in his practice is getting into closer touch with the people. He is less wrapped up in his own importance and efficiency, he poses less as he comes into contact with his clientele that his profession is shrouded in mystery, and takes more pains to awaken the intelligence and elicit the confidence of his patients. A hundred or more years ago John Abernethy, by whose foresight and virility medical treatment and surgical practice were measurably advanced, said, that "The doctors in their practice should explain the principle or reason for their treatment with a view to gaining the intelligent co-operation of their patients. If a medical man," he held, "thinks he has done his duty when he has written a prescription and a patient regards his as fulfilled when he has swallowed it, then both are deceived."

For the past thirty years the doctrine of prevention, the observance and enforcement of the laws of health, have done much to gain the intelligent co-operation of the people. When the physician is called to a case of infectious disease he not only goes through the routine of treating the patient, but at once investigates, or causes to be investigated, the conditions which breed the disease. The condition of the plumbing, sewerage, milk and water supply, all are examined, all of which call forth the intelligent co-operation of those directly concerned. This co-operation on the part of the doctor and people is gradually bringing the people into closer touch with

the profession. If the aim or object of the Association of Medical Health Officers of Nova Scotia be to prevent disease, its work, I take it, is not only confined to the practice of hygienic and sanitary measures, but takes in a wider realm in the practice of medicine.

If this be true, would not frequent examinations of those who appear physically well do much in preventing and arresting disease? The population of this province is about 500,000, for the most part, decent, respectable and well-intentioned people. Could we have before us the number of preventable deaths, caused by infection and otherwise, which in their initial stages might have been prevented or cured, and estimate the financial loss, barring any other, this alone would be appalling. Someone has said "that the pride and glory of the medical profession is bound up in the word, prevention." "Humanity owes us a far greater debt for sickness prevented than for sickness cured." Frequent examination of the well may not come directly under the purview of the statutory health laws. We must admit, however, that the observance and enforcement of these laws, to the end that contagious and infectious diseases are prevented, have been an incentive to take any reasonable and necessary steps to arrest and cure disease. Thanks to the Provincial Government of Nova Scotia, who have given to the people statutory health laws not inferior to any. If examinations of the well or apparently well were frequently made in the families attended by the doctor, thousands of cases would be detected and arrested during their initial stages. Admitting this to be true, the practice undoubtedly would be preventive medicine. We have seen in our practice many cases of advanced tuberculosis, which in their first stages were looked upon as a slight bronchial cough. After a year or two, when submitting to an examination, their condition had revealed the fact that it had advanced beyond the line of resistance. Rapid loss of weight which had persisted for some time has brought to the doctor a patient who has been too busy to consult him earlier; a case of neglected diabetes. In other cases, frequent headache, dimness of vision, nausea, chilliness, persisting for months, have proven to be symptoms due to advanced Bright's disease. In the realm of surgery, breast tumors, if involving the axillary glands, demanding operation, derive only temporary relief, whereas if early attention were given, complete removal of the disease tissue would be possible.

How often have we been called to relieve or save the sufferer too late. A fond mother nurses a sore throat in one of her children, with homemade remedies. The diphtheritic patches extend upward into the nares and downward into the larynx and bronchi; result, labored breathing and cyanotic face, unmistakably telling us, that even antitoxin, so effective if used in time, is of no avail in this case. The little one is doomed, because the mother did not know.

Of gonorrheal and syphilitic diseases—what, in the future, is to be the attitude of the Department of the Public Health and the medical profession of this Province in dealing with them? A case of syphilis in the fiance. What is to be done about it when the doctor knows that the man is deliberately planning to lead the young woman to the marriage altar? Who of us, when all other means have failed, and he still persists, will dare to prevent it? I believe there is a responsibility resting upon the physician in these cases which has been ignored in the past. I have dared to do it and shall, when opportunity offers, do it again. Such practice as this is very much in the domain of preventive medicine. When the young man who has reasons to believe that some time in his life he has committed an indiscretion, realizes that he can confidently go to the doctor who has frequent professional access to his family, make a clean breast of his condition, and submit to a thorough test, desiring that his contemplated marriage vow be unsullied and children born free from hereditary disease, then we will see an advance in the field of eugenics not yet attained. The cemeteries of cities, towns and hamlets are dotted with the graves of young wives whose husbands had contracted the disease before mar-

riage. All of us have doubtless seen cases of gonorrhoea in a girl baby contracted from the mother, perhaps the wife of a laboring man, or a case of gonorrheal ophthalmia in a young man whose only sin was that he had used the same towel as an elder brother. The medical man whose duty it might be to care for the well, would be on hand to treat such cases in their initial stages.

In the leaflet issued by the Department of the Public Health in May of this year, dealing with venereal diseases, are suggestions which ought to grip the profession, drawing more serious attention to the problems associated with venereal diseases, not only "in their direct, but consequential conditions."

The advisability of instructing children in the schools in sex hygiene I am pleased to see has some support in the leaflet, by suggesting that persons be selected for the job whose knowledge and acquirements give an aptness and tact to teach this important subject. Let us as a profession break the ominous silence of the past and get rid of the prudishness which has so easily beset us.

At the American Social Hygienic Association of last year, it was reported that "notification of venereal diseases is now required by the laws of eleven states and a number of cities." How far these laws have been enforced I do not know.

The Association laid emphasis on the fact that "the logic of cumpulsory notification of venereal diseases must be recognized." Evidence is not lacking to prove that the patients receive the best assistance, and the public the best protection, when the physician and the Health Department work together in a full knowledge of who the patient is, where he lives, and how he is occupied. It seems absurd to contend that health departments cannot be made just as trustworthy repositories for personal histories as doctors' offices, private laboratories and hospital wards. "In time it is probable that public opinion will demand that the health officer, as the representative of the people, shall be taken into consultation in dealing with venereal patients, just as he is now taken into the confidence of physicians dealing with tuberculosis and typhoid fever and other communicable diseases, which experience has shown may be treated by the private physician provided the public interest is safeguarded through certain supervision by the health department. All the general arguments for complete reporting of other communicable diseases apply to the venereal disease."

What are we going to do about this devilish thing, when this great world war is over, when many of our young men who are spared to return to their native land and homes will bring with them this dreadful disorder? Shall not the department of public health in cooperation with the medical fraternity of the country be on the job to prevent the fearful effect upon the people, which is sure to follow unless those who know do their utmost to check the evil? Shall silence still prevail? Or shall it be broken? If not, God help the profession and the country.

The consideration, observance and enforcement of such measures as will combat this disease the greatest degenerator of the human race, are not only visionary, but will become real and practical in the future. The measuring rod of the past must not and shall not be the measuring rod of the future. The day is coming when, in dealing with this disease, a spade will be called a spade, not "an agricultural implement."

Democracy did not dawn in a day, or in a century. Men dreamed and saw visions of it, they died at the martyr's stake for it; ultimately, it triumphed. In the past fifty years conditions in the treatment and care of the sick, the preservation of the well, have changed. Great tests are now taking place in the world. The test of obedience to the conservation and preservation of the laws which govern health. Another is the terrible test which is rocking the world from centre to circumference, the battle to supplant the reign of militarism by peace—a peace made secure by the unity of nations, a peace which cannot be broken. In the first, it is our duty as conservators of the health of the people to march with "eyes front" in the pro-

cession which is endeavoring to make obedience universal. In the other to be loyal and true, the principles for which our Empire is striving, watching and praying for the dawn of the day when this conflict shall be over, inevitably bringing changed conditions which it will be our duty to grasp and cope with. for the betterment of the health and happiness of humanity.

A word or two in reference to two articles of food, milk and meat, which are not safeguarded as they should be. An essential aim of the Health Officers Association in co-operation with the Department of Public Health is to get busy in an effort to induce the Federal Government to deal with these important articles. All milk not coming from tuberculin tested cattle should be scientifically sterilized. The people are and have been eating meat of tuberculous and cancerous carcasses. Every health officer of much experience has from time to time come into contact with such cases and prohibited the sale of the meat, but the number of those detected is not a tithe of the undiscovered.

While, as I have said, we have splendid statutory health laws in Nova Scotia, yet because of the manipulations of the machinery in the rural districts, because of political ardor and partizan bias, men are appointed sanitary inspectors who have very little interest in sanitation, who know little or nothing of sanitation and hygiene. Consequently we see, in some of these districts, privies on the school grounds which are a shock to decency and a menace to the health of the pupils. We see cesspools neglected and overflowing, jeopardizing the health of the neighborhood. We see barns where dairies are kept without proper ventilation or cleanliness. Typhoid fever breaks out and the people wonder from whence it came. At whose door lies the blame? The Government? No. The health laws? No. The people? Yes. When the people show sufficient evidence to the Government that the health laws in many parts of the rural districts are deliberately violated, and insist that expert officials are necessary to cope with the situation, their request will doubtless be granted.

For the past thirty years I have been more or less engaged in trying to induce, not coerce, the people in the observance of sanitary laws and ordinances, seldom adopting the cast iron rule of enforcing them unless I have found some one acting in defiance of all law and authority. In the incorporated towns where the health officer's environment is limited in comparison to the territory presided over by the country health officer, the educative process in public health has made more rapid progress. At the afternoon session of the Association, emphasis was laid on the suggestion that expert officials be appointed to bring the necessity for the observance of the public health laws more directly before the people by lectures and meetings for this purpose.

The people of the province are frequently favored with lectures, meetings and demonstrations dealing with live stock, agriculture, dairying, the suppression of bugs, fungi and all pests of plants and trees. Why should not the same interest be manifested by the powers that be in the great problem of conserving human life?

The Epidemiology of Epidemic Poliomyelitis or Infantile Paralysis :

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Read at the Annual Meeting of the Association of Medical Health Officers of Nova Scotia, July 3, 1917.

A discussion of the various aspects of the subject of epidemic poliomyelitis may very properly take up the attention of a congress of medical health officers, and is especially timely now in view of the somewhat alarming extension of the disease over this continent. I shall endeavor to put before you as concisely as may be the factors entering into its causation and the mode of transmission from individual to individual and from community to community. First let me offer a word of criticism of the terms "poliomyelitis" and "infantile paralysis," commonly applied to the disease under consideration, as this has a direct and important bearing upon what I have to say. "Poliomyelitis" is incorrect, inasmuch as it implies a lesion confined to the central nervous system, and moreover a particular part of it—the gray matter: "infantile paralysis" is misleading, for there are cases without paralysis. Truly understood, poliomyelitis is a systemic disease, albeit with its chief manifestations exhibited in the central nervous tissues. Thus it finds its analogues in such diseases as cerebro-spinal fever, pneumonia, typhoid fever, smallpox all of them systemic infections with a chief localization in some particular tissue or organ, the meninges, lungs, intestine, and skin in the cases cited. If we take this point of view, we are prepared to understand the modes of infection. If we realize that the disease need not be attended with paralysis, we can the better appreciate the manner of its spread.

We can begin our study of epidemic poliomyelitis with the axiomatic statement that a disease which tends to prevail in epidemic form must, perforce be due to an infective agent. At this late date, it seems almost superflous to enunciate this statement. But self-evident as it seems to us it has not always been accepted. We owe this conception to Wickman and other Scandinavian writers, who, as late as 1906 taught the infectious nature of this disease and emphasized the part played by human carriage in the evolution of epidemic outbreaks. Later, their views were extended to include the agency of healthy "carriers" in transmitting the disease from the frankly ill to other and future victims. The very complete and comprehensive investigations that have been made of recent years have tended to confirm them on every point.

The first link in the chain of evidence was forged by Landsteiner and Popper (1909) who succeeded in producing poliomyelitis in a monkey by injecting material from a human case. These observers, however, failed to propagate the disease any further. More success attended the efforts of Flexner and Lewis, who, by substituting the intracerebral for the intraperitoneal method of inoculation, were able to transmit the affection through a series of monkeys. This was corroborated in the next year by Landsteiner and Levaditi. Then came the crowning discovery of Flexner and Noguchi in 1913, of a minute anaerobic micro-organism, so small as to pass through the pores of a fine porcelain filter, which was present in the nervous system of human beings dead of the disease, and was competent to reproduce all the features of the human disease in monkeys, when introduced into the cranial cavity. Fuller studies have shown that this organism conforms to all the requirements of Koches postulates, and must, therefore, be accepted as the specific cause of epidemic poliomyelitis. The micro-organism is somewhat readily killed by exposure to direct sunlight, but is quite resistent to the action of heat, drying, and antiseptics, such as carbolic

acid. Especially when embalmed, as it were, in protein matter, such as mucus, it may retain its virulence for a lengthy period. In cultures it has been known to live for thirteen months without transference, and is still active in glycerol after six years (Flexner).

This tenacity of life under adverse conditions helps us to understand the persistence of foci of infection in a community.

The virus of poliomyelitis has a special affinity for the central nervous system. However introduced, if infection follow, the virus sooner or later arrives in the meninges, brain, and cord. The most certain method of infecting experimental animals, notably monkeys, is by introduction of the virus into the cranial cavity. Next to that, the application of the virus to the nasal mucosa is the most likely to be followed by success. Simple swabbing of the nasal cavity in the monkey with the virus of poliomyelitis is sufficient to induce the disease. Of course, the intracranial method of infection never occurs in the human cases of the disease, and the great susceptibility of the nasal mucosa in monkeys to invasion by the specific micro-organism is a strong argument in favor of the view that this is the ordinary portal of entry for the virus under what may be termed the natural incidence of the disease. With less certainty infection may be produced by injection of the virus into the peritoneal cavity, into the sciatic nerve, and into the blood stream. Under extraordinary conditions, such as are induced by locking up the bowels with opium, infection may be induced by way of the intestine.

Some debate has taken place as to the modus operandi by which the virus reaches the brain cavity from the nose, whether by the general blood current, or by means of the lymphatics. This same problem arises in connection with epidemic cerebro-spinal meningitis. Flexner's experiments to determine this point are conclusive that the transmission is lymphatic, along the fibres of the olfactory nerve to the olfactory bulbs, thence to the meninges, pons, medulla, and cord. Later, the inter-vertebral ganglia become involved. The virus is not uncommonly, also, found in the mucous membrane of the intestine and in the mesenteric glands, apparently the result of swallowing infective secretion from the nasopharynx. The virus has not been found in the large organs, such as liver and spleen, or in the circulating blood.

It is foreign to my purpose to deal with the lesions found in epidemic poliomyelitis. Suffice it to say that the disease is centred upon the nervous system, meninges, brain, and cord. In many cases the chief manifestation is meningitis, the other features being subsidiary. In the paralytic cases the spinal cord bears the brunt of the infection, the ganglia in the anterior and posterior horns, and the intervertebral ganglia being in large part destroyed. In addition, there is a tendency for the endothelial cells in the lymphatic glands generally to proliferate, not unlike the changes described in the same structures by Mallory in typhoid fever. Focal necroses are commonly found in the liver. In the last analysis the specific lesions are partly vascular and partly toxic, there being accumulations of inflammatory cells about the blood-vessels, oedema of and hemorrhages into the interstitial tissues. Neurophages, phagocytic cells, in the severest cases make their way into the ganglion cells of the gray matter of the cord, and sometimes of the brain, which they destroy. Not only may cultures of the specific micro-organism be obtained from the damaged nervous tissue by appropriate methods, but the organism has been detected in these tissues by the microscope.

A fact of much importance, epidemiologically speaking, is that during the course of the disease the specific microbe is continually being discharged into the nasopharyngal cavity, whence it may escape into the external air, or, being swallowed with the secretions, be discharged by way of the bowel. Moreover, there is evidence for believing that the organism, when once established in the nasal mucosa, is capable of multiplication there. Thus, we have here an instance of a "vicious circle," of which there are so many in medicine.

The virus derived from human cases

has at first a low infectivity for monkeys, but on passing it through a series of these animals it usually acquires extraordinary potency. Once in this condition it may be passed from monkey to monkey through a long, but not indefinite series. Occasionally, a virus is found which cannot be thus intensified. In some instances, after a preliminary intensification, the virus may gradually lose its power until it returns to its original potency or even less. This, one may believe, corresponds to the onset, rise, and fall in the number and severity of cases observed in the course of epidemics of infantile paralysis. Thus, it is possible that a virus, left over from a previous epidemic, may by passage from individual to individual regain its former potency or even in time exceed it. Or, an entirely new virus may be introduced, which has by passage become highly virulent.

I wish here to draw attention to the important fact, which we are prone to overlook, that there are other forms of epidemic poliomyelitis besides the frankly paralytic ones. These are the meningeal, in which the features are those of acute meningitis, with or without muscular paralysis; and the abortive cases, in which paralysis is absent, or so slight and fleeting as to escape observation. The technical difficulties in the way of isolating the specific micro-organism are such that we cannot rely on this procedure for identifying cases of epidemic poliomyelitis, but, applying the inoculation test to monkeys, it has been abundantly proved that the specific micro-organism is present in the nasal mucosa in these special types as in the commonly recognized one, and is to be found in the secretion of the nasal and oral cavities, as well as in the discharges from the bowel. The distribution of the causa causans is, in short, the same in all cases. Moreover, the organism has been detected in the nasal secretion of persons recently recovered from the disease: of healthy individuals who have been in close contact with the sick: and habitually in certain others—chronic "carriers."

In view of what has been said, we are in a position to consider understandingly the various facts connected with the incidence and transmission of epidemic poliomyelitis, and to find rational answers to problems which have hitherto proved to be insoluble.

The period of incubation in epidemic poliomyelitis varies from two days to two weeks, with an average of about eight days. Probably the period in which the disease is most likely to be conveyed to others is during the very early and acute stage of the disease, though we have little certain knowledge on this point. In the case of experimental animals it is not usual for the virus to persist in the body for more than four or five weeks. Flexner is of the opinion that cases of infantile paralysis that have been kept under supervision for six weeks from the onset of symptoms may be regarded as free from danger. It has been found by experiment that the virus may disappear from the central nervous system within a few days to three weeks after the appearance of the paralysis, while it is still present on the nasal mucosa. In an exceptional case the virus has been detected in the nose and throat of a monkey six months after the attack. It is more difficult to clear up this point in the human subject, but there is one undoubted case in which the infective agent has persisted for five months.

It is noteworthy that in all forms of epidemic poliomyelitis, whether they be slight or severe, one attack confers immunity, and immunity of a lasting kind. In one case immunity bodies have been detected in the blood twenty years after the attack.

In the year 1907 there was an extensive outbreak of epidemic poliomyelitis in Scandinavia, and since then the disease has been endemic in northern and eastern Europe. Cases have appeared in the Atlantic coast towns of the United States, and somewhat later, in parts of the middle west, such as Minnesota. This would indicate that the disease had been imported by immigrants, following the ordinary lines of travel. The middle west, again, derives a large part of its new population from Scandinavian

countries. The source of infection is thus obvious.

Some few experiments would indicate that the virus of the disease is introduced into the body by means of biting insects, notably stomoxys calcitrans, the stable fly, but this work has not been generally confirmed. The weight of evidence to date is against this view. It is quite likely, however, that insects may act as passive carriers, and so may introduce the virus into foodstuffs, or directly, to the mouths and noses of human individuals. It is equally improbable that the disease can be conveyed to human beings through the agency of the ordinary domestic animals, except in rare instances. Outbreaks of paralysis have been noted as occurring in poultry, dogs, cats, pigs, sheep, horses, and cattle, sometimes coincident with cases of poliomyelitis in the human subject. Such have been shown to be commonly examples of peripheral neuritis, and not poliomvelitis, and, moreover, can not be transmitted experimentally from animal to animal, either of the same or another species. It seems pretty well settled that the ordinary mode of spread of poliomyelitis is by the agency of human beings; those affected with the disease, either in a frank or masked form: those convalescent from the disease: and healthy "carriers."

The virus leaves the body of the infected individual in the discharges of the nose, mouth, and intestines. It enters the new host through the mucous membrane of the nose and throat, as a rule, if not always. Being found in the secretions mentioned, the infective agent is readily transmitted, by coughing, sneezing, kissing, by the fingers, articles of clothing, by insects contaminated with these secretions, or by the discharges from the bowels. The resistance of the specific micro-organism to drying, heat, and chemicals, renders it particularly suitable for dissemination in the ways just mentioned.

It is worthy of note that human subjects do not exhibit the same degree of susceptibility to infection with this disease. In times of epidemic it is found that adults generally escape, while young children are more apt to be attacked than are older ones. At the same time, it cannot be said that any age is exempt. In the case of families one or more of the children may contract the disease, while the rest escape or seem to escape. Careful study has, however, shown that susceptibility is more general than at first sight was thought. Abortive, or larval cases, with little or no paralysis occur, and are readily missed unless one is on the alert.

From what has been said above it is easy to deduce the measures to be adopted for the control of epidemic poliomyelitis. In a general way it may be said that the measures applicable to the control of typhoid fever may be employed in the case of this disease. Cases should be carefully isolated, preferably in a hospital. All persons in attendance on, or brought into contact with, the sick are suspects, and should be kept under observation until the period of incubation is over. They should use sprays of hydrogen peroxide 1 per cent., for the nose and throat. All discharges from the patient should be disinfected, and soiled clothing likewise. The hands of attendants should be washed in disinfecting solutions whenever soiled.

The bed of the patient should be guarded with mosquito netting, and all food should be protected by screens or in covered receptacles. Flies should be destroyed as far as possible. Food should not be exposed for sale in stores unless properly protected against flies and dust, and no one living in a house where there is a case of poliomyelitis should be permitted to handle articles intended for sale to the public.

Particular care should be exercised to detect cases early, whether the frankly paralytic ones, or the irregular, larval, or abortive ones. In case of doubt act as though the diagnosis were positive. No matter what form of the disease we have to do with, the distribution of the germ is the same and the danger to others is the same. It should be pointed out that an examination of the cerebrospinal fluid should be made in all suspected cases, and will frequently render the diagnosis a certainty.

Diagnosis of Anterior Poliomyelitis

By Dr. Clarence Miller
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Read at the Annual Meeting of the Association of Medical Health Officers of Nova Scotia, July 3, 1917.

Infantile paralysis, or more scientifically speaking, anterior poliomyelitis, has of recent years assumed a very special importance on account of its increased frequency, not only in the United States of America, but in Canada. In the year 1907, a great epidemic occurred in New York, followed by a widespread prevalence throughout the United States and Canada. In the year 1912, in my home town of Stellarton, we had a small outbreak of twelve cases and several other cases appeared in different sections of the County of Pictou. It is with reference to some half dozen cases which came under my observation at that time, that I wish to lay stress, in relation to the diagnostic factors of this disease.

I was impressed in the first place, with the fact that the general initial symptoms of the cases had nothing very characteristic about them and give one very little, if any ground for suspecting a subsequent paralysis; secondly, although the number of cases were few, yet half of them were of distinctive types; and, thirdly, with the advisability of thorough disinfection of the habitation of the patient.

With the increased prevalence of anterior poliomyelitis there has developed a deeper knowledge of its pathology and consequently we have arrived at a more complete solution of its diagnosis, very much in advance indeed in contrast to the time of the first epidemic in 1841, when several cases diagnosed as hemiplegin, due to teething, were in reality poliomyelitis.

All leading scientific investigators are agree that it is a general toxaemial process which apparently acts slightly on the various organs of the body, but which has a predilection for the nerve cells of the spinal cord and cranial nerve nuclei. The symptoms are generally those of acute infection and therefore do not aid very much in the diagnosis. In general it may be said that a diagnosis of anterior poliomyelitis is rarely made before the appearance of the paralysis, and a remarkably large number of cases are wrongly diagnosticated at this early period, even when seen during an epidemic. In my first case, a Mrs. P., aged 24, married. I was called to see her one evening in the month of June, 1912. Her complaints were chilliness, slight headache, slight sore throat. Her temperature was 101.5, pulse 84. I made a snapshot diagnosis of influenza, prescribed a capsule containing aspirin, quinine and compound ipecac powder, but on calling the following morning, to my dismay I found her right arm limp due to a flaccid paralysis involving the deltoid group of muscles and the muscles of the brachium and ante-brachium. This was an example of a purely spinal type, involving the right anterior horn in the cervical region of the cord. She never regained any motion in the arm. Three years later I assisted at an operation upon her for gall stones, necessitating the removal of the gall bladder. She died apparently from shock.

Case II. A nurse, Miss K., nursing in Sydney, returned home feeling very much worn out and suffering greatly from headache. I was hurriedly summoned in the month of July 1912, to attend her She was suffering from intense pain on the left side of face and head; temperature 102°, pulse 90. I prescribed an analgesic, judging from the distribution of the pain that she had facial neuralgia. The next day I found her with facial paralysis and still in pain. The hyperaesthesia persisted. Three days after the onset the hyperaesthesia had extended down the left arm, and the motive power of the arm became slightly impaired. Despite all usual forms of

treatment, the paralysis of left side persisted in a marked degree for two years. At the present time, it is slightly existent, the paresis of orbicularis palpebrarum being quite marked. I feel quite confident that this was a case of poliomyelitis of the bulbar type, involving the facial nerve nucleus, with no doubt a hyperaemia in the cervical region of the cord, causing impaired motive power in the arm. There is still quite noticeable atrophy of muscles of left side of the face. The reaction of degeneration was present in the muscles of the face in this case, as in case No. 1.

Case III. A young child, Baby M., two years of age. The first symptom was vomiting. On examination the evening of the onset the child's temperature was 105°, pulse very rapid, respirations 36, all indicative of an acute infection. The temperature range for several days was from 100° in the morning. to 103.5° in the evening, with occasional vomiting, when one morning I discovered some rigidity of the neck, with some stiffness in the back, and strabismus. I made a diagnosis of acute cerebrospinal meningitis. However, a few days subsequently, a monoflegia of the left arm developed. The paresis was quite of a flaccid character and the question arose whether this was a case of acute cerebrospinal meningitis or anterior poliomyletis. It was not the ordinary cerebrospinal meningitis, flaccid paralysis being present; but it might be meningitis of a tubercular type in which one sometimes gets flaccid paralysis. The acute onset however, with the early meningeal symptoms, the flaccid paralysis and the presence of a miniature epidemic in the county, inclined me to poliomyelitis. The child subsequently developed involvement of the vagus nerve with a Cheyne-Stokes type of respiration. This was followed by coma and death.

Case IV. A young married man, Mr. S., aged 27, moved, in the summer of 1913, to the house lately occupied by Mrs. P.. (case one, in 1912.) He took up his abode in this house during the first week in August. About two weeks afterwards he consulted me for a "sore stomach." Everything he ate hurt him, he was troubled with eructations of gas, and complained of slight headache at times. Temperature and pulse were normal. I prescribed a digestant, thinking that hyperacidity was probably the cause of his symptoms. Again I was wrong. Three days later he consulted me, complaining of soreness in his left arm with loss of power, and as compared with the grasp of the right hand the left hand grasp was markedly weakened. He was a very strong, able-bodied young man, and under massage and electricity the power returned in the arm, after two months treatment. This was in all probability what is termed by some authorities "The abortive type of anterior poliomyelitis." An "immunity test" might have solved the matter, from the diagnostic standpoint—but monkeys being quite rare in our town, the diagnosis remained sub judice. However, I feel that this young man was infected in that house, although it had been fumigated, and had developed a mild attack of the disease, the virus being attenuated. The period of transmission here seems long however, and I have been unable to obtain any information with regard to the length of time that the virus of this disease continues to be transmissable.

Apart from the cases which I have described as coming under my observation. there are other types of anterior poliomyelitis. There is the progressisve type. Here the paralysis usually appears first in the legs and gradually extends upwards. Some authorities contend that the great majority of such cases have in the past been described under the term of "Landry's paralysis." In these cases the paralysis often reaches the external muscles of respiration and death occurs early. The diaphragm may be also involved. Again there is the acute encephalitic type, which was described by Strumpell many years ago, under the term "acute encephalitis of children." This is now recognized as a variety of anterior poliomyelitis of upper motor-neurone involvement. The diagnosis is made on findings of lumbar puncture.

Then there is the polyneuritic type. Here pain is the most prominent symptom, either located in the joints or more

often along nerve trunks or indefinite in its distribution. It is usually most marked in the paralyzed parts. The extremities are often held rigid and all motion is vigorously resisted because of the pain caused. This combination of rigidity and resistance is only possible when the muscles are but partially paralyzed or when some of them are intact. The failure to appreciate the significance of this combination of flaccidity and spasticity, the latter being due to the pain, could very easily lead to an error in diagnosis.

With this brief differentiation of the several types of poliomyelitis, the problem confronting us is firstly, the general diagnostication of these types from other diseases, and, secondly, the special differential diagnosis. In the general diagnosis two questions arise. The one: How can we diagnose poliomyelitis in the preparalytic stage? The other, in the post-preparalytic stage?

In the preparalytic stage, the initial symptoms lend very little aid in diagnosis, but if there is an epidemic in the neighborhood and there appears symptoms in a young child, suggestive of an acute infection, during the late summer months, our suspicions should be strongly aroused, more particularly if these symptoms are accompanied by sweating, nervous irritability, and especially hyperaesthesia. Such symptoms manifesting themselves certainly warrant an early lumbar puncture.

A lumbar puncture performed with rigid asefsis can do no harm and will render the diagnosis almost certain at this early stage. The characteristics of the spinal fluid in this disease are as follows: I am now quoting from Lovett and colorless, does not show great increas according to Lovett, "is as a rule clear and colorless and does not show great increase of pressure." According to Osler, it may be slightly turbid. In meningococcal, influenzal and pneumococcic meningitis, the cerebro-spinal fluid is so different from that of poliomyelitis that confusion, says Lovett, in these conditions could hardly occur. Confusion however, might occur with tubercular meningitis, the characteristics of the spinal fluid being much alike in the two conditions. As a rule there are more mononuclear lymphocytic cells in poliomyelitis than in tubercular meningitis, and in the latter there is generally more pressure in the spinal cord, and tubercle bacilli may be found in the fluid.

In this stage the examination of the blood gives some assistance. According to several authorities the blood count shows a mild leucocytosis with a decided increase in the lymphocytes and a decrease in the polymorphoneuclear leucocytes. Then there is the globulin reaction in the cerebrospinal fluid, which reaction occurs in the early stage, reaching its maximum just before the paralysis appears. This reaction is obtained by Noguchi's butyric acid test, a description of which is given in the eighth edition of Osler's Practice of Medicine.

Then there is the "immunity test," already referred to. Here a lumbar puncture is made, and the child's serum mixed with the virus is injected into a monkey. If the child's serum gives immunity to the monkey, the affection was clearly poliomyelitis; if it does not, the child may or may not have had the disease.

Referring again to the attack itself, apart from the fluid and biological findings, it may resemble an ordinary gastro intestinal attack, a common cold, influenza, or the beginning of one of the exanthemata. The appearance of tenderness often marks the condition and is, in fact, a routine symptom in the majority of cases, hence its resemblance to the conditions just mentioned and the danger of a flash diagnosis.

When the paralysis has developed the diagnosis is much easier than in the preparalytic stage. It is a motor paralysis, as in Case I, with the reaction of degeneration present. In Case I reaction was present, but not marked, no doubt due to severe paralysis. The anode closing contraction was not much greater than the kathode closing contraction. There may be weakening of more or less erratic distribution, most marked in the legs. Reflexes are diminished or lost. Then we have atrophy, retarded growth, cold-

ness and sluggish circulation in the later stages. Atrophy of the thenar eminence is of quite frequent occurrence, according to Lovett, at times throwing light on the diagnosis of doubtful cases.

Approaching the special differential diagnosis we find that acute epiphysitis may simulate poliomyelitis. In the former, however, the child is much younger and usually shows signs of inherited syphilis, the paresis is not complete, the epiphysis is swollen and painful on movement, and there is no reaction of degeneration. In infantile hemiplegia the limbs are rigid, the reflexes are increased, and no reaction of degeneration is present.

Infantile scurvy is accompanied by loss of power in a limb, but the clinical picture is entirely different and the results of suitable treatment appear promptly. In multiple neuritis, commencing suddenly with febrile symptoms and with paralysis occurring early, where the sensory symptoms are not marked .the diagnosis from polimyelitis may be difficult or even impossible except by noting the course of the disease, for atrophy may be common to both conditions and even the electrical reactions may be identical.

From cerebral palsies the most diagnostic point is the electrical reactions.

From acute infections differentiation may be impossible at the onset except by serum, blood, and biological tests.

Transverse myelitis is characterized by the reaction of degeneration, exaggerated reflexes, ankle clonus, and, generally, involvement of the sphincters.

There is an interesting group of cases described by Lovett, where paralysis occurred and in which the diagnosis was difficult. The first was that of a boy with a fractured elbow. While his arm was in splint he was seized with an attack of fever with increased pain in the elbow. On removing the splint the arm was found entirely paralyzed, from the shoulder down, and on examination the case was found to be a typical one of infantile paralysis. Two cases seen at the Children's Hospital in Boston revealed unusual combinations: one child with a congenital dislocation of the hip in one leg and infantile paralysis in the other, and another child with an obstetric paralysis of the right arm existing from birth and a subsequent infantile paralysis of the leg in the same side.

From one family two children of about the same age were brought to the clinic; one with a typical cerebral hemiplegia of three years duration, the other one with a typical infantile paralysis of an arm and leg.

In a summary of diagnosis one might say that in the pre-paralytic stage, the diagnosis is extremely difficult apart from resource to examination of the blood and spinal fluid and the immunity test. On the paralytic stage, these tests are still diagnostic. Without them our chief reliance is on the electrical reaction of degeneration.

Poliomyelitis Anterior Acuta

By Dr. M. D. Morrison
M.H.O., Dominion, N.S.

Read at the Annual Meeting of the Association of Medical Health Officers of Nova Scotia, July 3, 1917.

In the summer and autumn of 1911 there occurred a severe epidemic of infantile paralysis in the Glace Bay Colliery District of Cape Breton County, and I trust that a short account of the same, together with some general remarks about the disease itself, may not prove uninteresting to the Association.

The disease made its appearance in the mining centre of Bridgeport, where I discovered a case in the latter part of the month of June. This was soon followed by others in that neighborhood until I had twenty cases during July and August. This district was evidently an infective centre from which the disease subsequently radiated to surrounding territory. Curiously enough, too, the infection began to subside here just about the time it commenced to invade the neighboring districts—the towns of Glace Bay, Dominion and Reserve Mines.

All of these cases were striking enough in their course and termination to arrest attention, to arouse anxiety, and in many instances, to engender disappointment and sorrow. At least ten more cases could have been added to this list under the name and style of "abortive," inasmuch as the initial symptoms corresponded closely to those ushering in the typical affection; namely, vomiting, pain, drowsiness, and irritability; but recovery was rapid with no ill results.

Of the twenty more typical cases, five died, showing the high mortality rate of 25 per cent. Two made an early complete recovery, three have still slight traces of facial paralysis, one was unable to support the head for two years without the aid of a stuffed collar, three have residual paralysis of the lower limbs with marked wasting of certain groups of muscles requiring the aid of orthopedic appliances for locomotion, while the remaining six show unmistakable signs of their terrible experience six years ago.

With reference to age I may observe that four cases occurred in children under one year, six cases between one and two years, eight cases between two and three years, and two cases between three and five years.

It is only within a few years that infantile paralysis has received the close attention of medical science. Previously the paralysis had focussed all consideration, and this on autopsy was found to be due to a destructive process of the motor nerve cells in the anterior horn of grey matter in the spinal cord. The cause was unknown, the cases were comparatively few, and the treatment was principally in the hands of the orthopedic surgeon. But in 1905 a terrible epidemic raged in Sweden—1,500 cases, and in 1907 another in New York—2,000 cases, while a third ravaged Austria in the following year. Since then it has appeared suddenly in epidemic form in various parts of the world. The disease is said to have been brought to New York from the Scandinavian countries. In each of the above mentioned localities strenuous efforts were immediately made by leading clinicians and enthusiastic scientists to investigate this fearful scourge. Wickmann in Sweden, Muler in Austria, and Flexner in New York, have placed the whole world under obligation for their painstaking labors in this connection. The first two studied the disease at the bedside, while Flexner made his observations in the laboratory. The result of their combined work, in association with collaborators, is to show that infantile paralysis is essentially a general infection caused by what is known to biologists as a "filterable virus." Here, as with other infectious diseases, com-

paratively little advance had been made until the illuminating method of animal experimentation began to be employed. This experimental study was begun by Landsteiner in 1908. He pointed out the probability of contagion, the fact that brain and cord substances contained the actual virus, and also the possibility of conveying the disease from man to monkeys. In 1909, Flexner and Noguchi, at the Rockfeller Institute for Medical Research, proved the same and discovered the small globial bodies that are now regarded as the etiological factors in the causation of the disease. These American investigators showed that the disease could be transmitted to monkeys by inoculating them with an emulsion made from the infected spinal cord of a child who had died of the malady, and that thereby typical cases of it could be produced. The disease can now be readily transmitted by inoculation from monkey to monkey. Man and the monkey only appear to be susceptible to the infection, though domestic animals are capable of carrying it about.

The virus is found in the tissue substance of the central nervous system. It is not found in the cerebro-spinal fluid or in the blood. The lymph-channels, particularly the perineural and peri-vascular structures, carry the disease-producing agent to its destination in the central nervous system. The upper respiratory tract is the site both of ingress and egress of the virus.

Anterior poliomyelitis is one of the most treacherous and most severe of the acute diseases of childhood. It is highly contagious, as was first suggested by Wickmann, and afterwards confirmed by Flexner. While it has appeared sporadically for a long time, epidemics are of recent occurrence. The principal mode of transmission is supposed to be through the so-called "abortive" cases first described by Wickmann, though flies are not to be disregarded, nor clothing and dust.

At this stage permit me in a word to give a verbal picture of the disease as it presented itself to us in the colliery districts. In general it was that of a previously healthy child taken suddenly sick with fever, vomiting, pain in the head back or legs, often becoming quickly very drowsy. On physical examination there is stiffness of the neck with resistance to flexion; the child is irritable and wants to be left alone; cries out when moved or examined. Fever, drowsiness, irritability, pain or general tenderness, muscular twitchings and tremors, retention of urine and constipation were fairly constant symptoms of all the ordinary cases. A number of cases was characterized by deep stupor which developed early, and from which it was hard or impossible to arouse the patient. One child whom I saw on the afternoon of the day on which it took sick was unconscious six hours after the onset of symptoms, with head intensely retracted, pupils contracted to pin points, cyanosed and comatose, temperature 104°, pulse 150. This little girl, however, made a complete recovery.

In a day or two paralysis is observed. In our epidemic we had paralysis of one or both legs, of one or both arms, of the facial muscles, of the intercostal muscles, of the abdominal muscles, of the spinal muscles, and of the muscles of phonation and deglutition. In the majority of cases the paralysis was limited to the legs. This means a lesion in the lumbar enlargement of the cord. Next in frequency was paralysis of the arms, indicating a lesion in the cervical enlargement of the cord. The shoulder muscles, especially the deltoid are very prone to suffer and it is said their complete recovery is rather uncertain. One of my patients is the unfortunate victim of such experience. Both deltoids are entirely atrophied, while the muscles of the forearm are in a good state of development. He can feed himself while his elbows are resting on the table; but to get his hand up to the head he must swing it around like a flail.

Paralysis of the abdominal muscles is indicated by a weakness of one or both sides of the muscular sheet outside of the rectus. One of my cases shows this deformity, and is obliged to wear an abdominal binder for comfort. When there is paralysis of the spinal muscles the child cannot sit up, and when the neck muscles are affected it cannot hold

up the head. We have had examples of these sequelae. Paralysis of the intercostal muscles due to extension upwards from the lumbar enlargement and downwards from the cervical enlargement, and paralysis of the diaphragm due to involvement of the phrenic nerve, are exceedingly dangerous and are the most frequent cause of death. I lost two of my cases through this complication.

A close study of infantile paralysis was made at the Rockfeller Institute for Medical Research, New York, during the summer of 1911. One hundred and sixty-one cases were under observation and each case studied for four weeks. The patients mostly came from the suburbs of the city and from comparatively well-to-do homes. It was noticeable how the slums escaped infection. Most of the children ranged in age between one and three years. The latter part of the second year was considered the most liable to attack. The mortality was 14 per cent.

This dread disease made its first appearance in epidemic form on this continent in 1907, when the New York scourge already referred to, occurred. In the same year epidemics were reported from Pennsylvania and Michigan. In the following year it attacked Minnesota and Massachusetts. In 1909 there was the Nebraska epidemic and cases reported in Canada. In 1910 and 1911 the Middle States suffered severely and in the latter year we had the epidemic in Cape Breton. There was a respite then until 1916, when New York again acquired an unenviable reputation in this connection, also the city of Montreal.

The matter of treatment may be considered as consisting of first, the adoption of preventive steps; second, the alleviation of symptoms; third, the restoration of muscular activity. No known means of preventing paralysis, or of hastening the resolution of the inflammatory process is available.

As regards the first condition it is doubtful whether isolation of the sick has great value in the prevention of an epidemic. It is well recognized that great numbers of those who are apparently well are carriers without being in the least suspected. However, it is a wise precaution to quarantine and at the termination of the disease to disinfect and fumigate thoroughly. Urotropin may be given for one week to those who have been exposed; also gargles of hydrogen peroxide, 10 per cent., and nasal sprays of menthol, ½ per cent. Disinfection of secreta and excreta should be carried out. Vaccination against the disease has been suggested but the proceeds is not devoid of danger.

Pain is relieved by bromides, codeia, morphia, phenacetin, and heat. The latter is very useful applied to paralyzed limbs. Complete rest in bed and quiet are at first required. When pain subsides massage should be commenced and given twice a day; then follow passive motions and later active movements. The serum treatment has been imperfectly developed up until the present time.

With reference to the restoration of muscular activity we are bound to experience much disappointment. Muscle training must be begun early and should be persisted in. Electricity has been recommended, but is of doubtful value. The orthopedic surgeon should be called in early to co-operate with the physician. It is claimed that we should expect improvement for about two years.

The Venereal Disease Problem

By Dr. W. H. Hattie
Provincial Health Officer, Halifax, N.S.

Read at the Annual Meeting of the Association of Medical Health Officers of Nova Scotia, July 3, 1917.

For years our medical literature has been characterized by a very special stress upon the importance of the venereal diseases. Physicians have long regarded these conditions as constituting a most serious medico-sociological problem. The odium attaching to them has had the unfortunate effect both of making victims reticent about applying for treatment and of repelling many medical men from giving such attention to the study and treatment of these diseases as their manifest importance demands. Of late years, however, the interest in these diseases has spread to the general public. It is now known to the average intelligent layman that the venereal diseases are of importance not only because of their immediate effects but more particularly because of their consequential effects. It is known that they are the underlying factors of much of the sickness and suffering, of the disability and degeneracy which rank amongst the most pressing of our economic and sociological problems. It is known, too, that they are distressingly common, and that there is reason to believe that they are becoming increasingly common; for several more or less vigorous efforts to combat them have been carried on in nearly all civilized countries, and now the war has had the effect of focussing attention upon them and of creating a forcible demand for the general adoption of well systematized and properly organized methods of control.

In the war zone of France, the increase of venereal disease, both amongst the soldiers and the civilian population, has become so alarming that very special efforts are being put forth to cope with the situation. The prophylactic measures formerly in use have been reinforced by the creation of special organizations for diagnosis and treatment. A venereologic centre has been established for each region, composed of a hospital service, a consultation service, a dental service and a laboratory. Those presenting the slightest suspicion of venereal infection must be sent at once to such a centre—even detention in a regimental hospital to clear up the diagnosis being forbidden. The urgency for the return of valid men to the fighting line as soon as possible calls for intensive treatment of syphilis by salvarsan or its equivalent and mercury, and it is the function of the dental service to prepare the teeth of syphilitics preparatory to the intensive administration of mercury. Troops are suitably instructed concerning the venereal diseases at all depots. The military surgeons are required to lend the utmost support and collaboration to the civil authorities to insure the best possible conditions for the working of the venereal service for civilians of both sexes. Daily consultations are provided for, at such hours as to render them accessible to all classes of patients. The Ligue Francaise asks that, in addition to these measures, the venereal diseases be assimilated to other contagious diseases by the adoption of quarantine. This would entail the isolation of infected women in special hospitals until cured.

In England, too, much interest has of late been taken in this matter. A Royal Commission was appointed in 1913, which brought down a report which caused a real sensation. In the following year a National Council for Combating Venereal Diseases was formed. A great deal of study has been given to the matter, out of which has crystallized the legislation which has recently engaged the attention of British parliamentarians. This legislation as passed provides that arrange-

ments will be made by all borough and county boards of health, with hospitals within their respective areas, for the establishment of free venereal clinics, under the charge of specially qualified medical men. The notification of cases to local boards of health was also under consideration, but this provision met with such opposition that it was not adopted. Every encouragement is to be offered to patients to avail themselves of the opportunities for treatment, and to physicians to refer their patients to such clinics. Ample facilities for laboratory diagnosis and for clinical study are to be provided. The Imperial Government will pay 75 per cent. of the cost entailed, while the balance is to be a charge upon the municipalities.

The agitation to make notification compulsory, led the British Medical Association to appoint a committee to consider the attitude the Association should take in the matter. This Committee was composed of the chairmen of all standing committees, so we must regard it as being thoroughly representative. Its unanimous conclusion was that compulsory notification would be inadvisable, first, because that it would probably encourage concealment, and, second, because, even if notification were made it would not help in the treatment. The Association urges two indispensable preliminary steps: the provision of facilities to assure sufferers of proper treatment regardless of their financial condition, and the prohibition of quack nostrums and of treatment by unqualified or incompetent persons.

The British Parliament has also passed certain amendments to the criminal law which are designed to assist in the control of venereal diseases. Briefly these amendments prohibit the advertisement of abortifacients and of remedies for venereal diseases, require that all treatment of venereal conditions be carried out by duly qualified practitioners, and make it a severely punishable criminal offense for any one known to be suffering from a venereal disease to have sexual congress with other persons.

In Western Australia, at least, legislation not unlike that recently formulated for England, has been in effect for nearly two years. In that country persons suffering from venereal diseases must undergo treatment until they are certified as cured. Notification by the physician in attendance is required, and failure on the part of a patient to continue treatment must be reported by the physician. Suitable provisions are made relative to secrecy, to compulsory examinations and treatment under certain conditions, to laboratory examinations, to subsidization of hospitals, to remuneration of physicians, to prohibition of quack cures, etc. Treatment by unqualified persons is punishable by a fine of £50 or a sentence of six months with hard labor. Failure to begin treatment within three days after a venereal disease is recognized is punishable by a fine of £50. It may be said that there is a complaint from medical men that this law places them in the invidious position of requiring them to act the part of informers.

The Department of Health of New York City has been engaged for some years in efforts at the control of this disease. In that city a system of notification is in vogue, clinic and dispensary facilities having laboratory assistance are provided, and an educational propaganda is being carried on.

In March last, bills regarding the venereal diseases were under consideration in the legislature of twenty-three states of the American Union. There was little uniformity in these bills, some calling for notification, some for suppression of quack treatment, etc., etc., but the fact that so many legislatures had these diseases under discussion shows how general has become the interest in measures aimed at their control.

Of all diseases, those now being discussed offer the greatest difficulty in an attempt to secure statistics which can be regarded as being in the least satisfactory. Of their lamentable prevalence, every physician is well aware, but even medical men had little conception of the extent to which they exist prior to the development of our newer diagnostic procedures. It was not until 1905 that we had knowledge of the treponema pallidum, and not until 1906 that the Bordet-Wassermann reaction became a part of

our diagnostic armamentarium. Four years later, Ehrlick's treatment of syphilis was made known to us. Thus the most notable advances in syphilology have been made within the past twelve years. The application of the Bordet-Wassermann test affords us a means of detecting a syphilitic infection which otherwise might pass undiscovered. It is now the practice to apply this test to every case admitted to the wards of the Toronto General Hospital, irrespective of the disease from which the patient may suffer, and it has been found that from 12 to 14 per cent. of all admissions to that institution are syphilitic, although in fully two-thirds of these such infection had not been suspected. Of these admitted to the Boston Marine Hospital between February and October, 1916, all being subjected to the Bordet-Wassermann test, 24.7 per cent. gave the reaction characteristic of syphilis. Warthen found the spirochaete in one-third of a series of autopsies conducted by him. In a recent publication of the American Social Hygiene Association it is stated that syphilis affects about eight per cent. of the total population.

In a discussion in the British House of Parliament, on the 23rd of April last, Capt. Frederick Guest stated that during two and a half to two and three-quarter years there had been admitted into the (military?) hospitals of England, over 70,000 cases of gonorrhoea, over 21,000 cases of syphilis and over 6,000 cases of soft chancre. He further stated that in one Canadian camp, during sixteen months, there were 7,000 cases of venereal disease.

From statistics given in February last by the Under Secretary of State for War, one learns that the admissions of venereal cases to military hospitals in England have numbered 43.5 per 1,000, as against a peace record of 56.5 per 1,000, in 1912. This represents a proportionate decrease, but of course the great enlargement of the armies since the outbreak of the war makes the actual number of cases enormously larger than in peace times.

In the City of New York, where, as already stated, a system of notification has been adopted, 20,128 cases of syphilis were reported during 1916. This represents a rate of 3.592 per thousand of population. There were 831 more cases of syphilis than of pulmonary tuberculosis reported in New York City last year.

On May 14th last, Sir William Osler delivered the annual Lettsomian oration of the Medical Society of London, selecting as his subject "The Campaign Against Venereal Disease." He endeavored to unravel the mortality statistics of the Registrar-General's report in such a way as to arrive at an estimate of the part which syphilis plays as a cause of mortality. While fully cognizant of the impossibility of securing accuracy by such a method, inasmuch as it affords one a means of obtaining an approximate idea as to the prevalence of the diseases under discussion, I offer you an analysis of our mortality statistics for the last provincial year, following the method which Sir William Osler applied to British Statistics.

During the year there were 377 still births reported. These are not taken into account in our statistical returns, and they are mentioned only because it is well known that syphilis is a frequent cause of foetal death. A study of a series of cases at the Johns Hopkins Hospital revealed the presence of syphilis in 26.4 per cent. Osler, however, suggests that 20 per cent. of foetal deaths should be ascribed to syphilis. On this basis, about 75 of our still births of last year might be attributed to this disease.

According to Osler, from one-sixth to two-ninths of the deaths in children under the age of one year are consequent upon syphilis. The smaller fraction would account for about 260 of our infantile deaths last year. Two deaths were attributed to locomotor ataxia and 19 to general paralysis of the insane—both of which diseases are resultant upon syphilitic infection. Of "other diseases of the spinal marrow," Osler attributes 50 per cent. to syphilis, so we may put down 12 out of the 25 deaths thus classed to this disease. There were 15 deaths in those between the ages of 25 and 50 ascribed to cerebral haemorrhage. Osler would attribute 14 of these to syphilitic infection. By following Osler's estimate,

one-third of our nine deaths due to softening of the brain (=3); one-sixth of the 293 deaths due to paralysis without specified cause (=50); two-fifteenths of the 18 deaths due to epilepsy, 177 due to infantile convulsions, and 47 due to other diseases of the nervous system (= in all three, 32); one-third of the 75 deaths due to organic disease of the heart in those between 30 and 55 years of age (=25); and one-half of the 107 deaths due to diseases of the arteries (=53) might be considered as due to infection by the spirochaete. Finally, syphilis was the assigned cause of death in four instances. Thus we may assume that, even upon so conservative an estimate, syphilis was the prime factor in causing 474 deaths in our province last year, of which only four are actually classified as due to that disease. This total represents approximately six per cent. of all our deaths. And this is quite irrespective of the 75 still births which might be similarly assigned.

With reference to gonorrhoea, we can get even less help from our statistics. That it is common and accountable for much disability we are well aware. The laity are accustomed to consider it a condition of little consequence, but the surgeon has an entirely different conception of it. It is stated on good authority that fully 25 per cent. of the major operations at gyneacological clinics and hospitals for diseases of women are necessitated by gonococcal infection. This infection is also said to be the cause of 90 per cent. of sterility in woman. Noegerrath has claimed that 90 per cent. of sterile women have husbands who have had gonorrhea. Of its potency in causing stricture, gonorrhoeal rheumatism and other disabling conditions there can be no doubt. And, perhaps most deplorable of all, is the fact that from 30 per cent to 40 per cent. of cases of congenital blindness are due to infection by the gonococcus. While we still have reason to regard syphilis as the more serious condition, we must give gonorrhoea an important place in the production of much suffering and chronic invalidism, and in the prevention of attainment to a satisfactory birth rate.

Such facts as these account for the rapid growth of public interest in the venereal diseases, and for the demand which has come from any quarters for their incorporation amongst the conditions with which health departments deal. It may be at once admitted that this is not a welcome addition to the health officer's burden. But to the medical health officer there can be but "one single watchword—duty; that is all." We must, therefore, determine to give this matter our best consideration and our best effort.

The military and naval authorities have long recognized the disabling effect of venereal conditions, and have formulated rules which are aimed at the prevention of infection and at promptness and thoroughess in treatment. Even with the organization and discipline of these services, however, the problem has proved most baffling, and to-day venereal infection is one of the most potent factors in the production of casualties. The active co-operation of civil and military authorities would appear to be absolutely necessary if success is to be achieved.

Prophylactic treatment, as carried out in the armies and navies of various countries, is regarded with certain misgivings by many social reformers, who fear that its practice may encourage some to venture upon forbidden paths who would otherwise be deterred by the fear of infection. It is not necessary to argue this question here. There is a practically unanimous belief amongst the medical officers of the services that prophylactic measures, if used in accordance with instructions, are almost invariably successful.

Undoubtedly the logical method of securing freedom from these diseases is to avoid the possibility of infection. We should advocate continence as the safe and sure means of escaping so deadly a peril. We may differ as to the measures to advocate relative to legal efforts at control. Personally I think that we should aim at methods similar to those which are being adopted in Britain. Syphilis and venereal disease are included amongst the "infectious or contagious

diseases" specified in our Public Health Act, and as such are reportable. Whether it would be wise or otherwise to insist upon their report is a matter of individual opinion. We need no legislation in order to secure the establishment of clinics for the treatment of venereal diseases, which should be made free to those unable to pay. We require, however, proper organization for follow-up work. Our laboratory is available for diagnostic purposes. Thus far we can make provision for ourselves.

If, however, we are to have legislation forbidding the advertising of quack nostrums, prohibiting treatment by unqualified persons, and penalizing infected persons who indulge in sexual congress, we must have federal laws framed and enforced. And inasmuch as these diseases are not restricted to any province of the Dominion, it would appear necessary to effective action that the initiation and prosecution of preventive measures should be under federal jurisdiction. Thus we have an additional argument for the foundation of a National Public Health Service.

Instruction of the general public is also a matter which should have our attention. A leaflet, designed for this purpose, has been issued by the Department of the Public Health, and is available for distribution. In this reference is made to the possibility of innocent acquisition of the diseases, to the question of instructing children in sexology, and to other matters of undoubted importance which would require too much time for discussion in this paper.

A carefully prepared resolution, embodying the sentiment of this meeting, if given to the public, would doubtless have a salutary effect.

Meetings and Reports

Canadian Public Health Association
SIXTH ANNUAL CONGRESS
September 27th and 28th, 1917
Ottawa, Ontario

All Sessions held in Normal School

On Monday and Tuesday the 24th and 25th of September the Annual Meeting of the Canadian Conference of Charities and Correction will be held in the same place, and the Canadian Association for the Prevention of Tuberculosis will hold its seventeenth Annual Meeting there on Wednesday, September 26th, 1917.

The public are cordially invited to attend any or all of these meetings.

Program
Thursday, September 27th, 1917
Morning Session

9.30 a.m.—Registration of members.

10 a.m.—General business meeting. Report of secretary. Appointment of committees.

11 a.m.—1. Symposium on venereal diseases. (a) "Social Aspects of the Venereal Disease Problem," by Captain Gordon Bates, C.A.M.C., and Captain D. T. Fraser, M.C., C.A.M.C. (20 minutes).

11.20 a.m. (b) "Military Aspect of the Venereal Disease Problem in Canada," by Lt. Col. F. S. Patch, C.A.M.C., A.D.M.S., M.D., 4, Montreal (20 minutes).

11.40 a.m. (c) "Venereal Diseases and Sex Hygiene," by Dr. Hector Palardy, D.P.H., District Sanitary Inspector, Hull, Que.

12.00 a.m. (d) Discussion—Major J. W. S. McCullough, D.A.D.M.S. Sanitation, M.D. 2, Toronto; Dr. J. A. Macdonald, The Globe, Toronto; Captain H. W. Hill, D.A.D.M.S. Sanitation, M.D.I., President Ontario Health Officers Association,

London, Ont.; Major M. Lauterman, Montreal, P.Q.; Dr. C. K. Clark, Toronto.

Afternoon Session

2.15 p. m. 1. Presidential address—"Certain Aspects of Public Health in Canada," by J. D. Page, Esq., M.D., Quebec (30 minutes).

2.45 p.m. 2. Symposium on National Health Insurance. (a) "The Contribution of Health Insurance to Improvement of the Public Health," by Miles M. Dawson, Esq., New York City (30 minutes).

3.30 p.m. (b) "Health Insurance, the Practice of Medicine, and Public Health," by I. M. Rubinow, Esq., Ph.D., New York City (30 minutes).

4.00 p.m. (c) "The National Importance of Health Insurance," by C. J. Hastings, Esq., M.D., Medical Officer of Health, Toronto (30 minutes).

4.30 p.m. (d) Discussion. (1) Hon. Senator Robertson, Ottawa, for Organized Labor.

(2) Dr. John P. Morton, Hamilton, President Ontario Medical Association, for the Medical Profession.

(3) J. E. Atkinson, Esq., Toronto.

5.00 p.m. "The Value of Statistics in Public Health Work," by M. M. Seymour, Esq., M.D., D.P.H. Commissioner of Health, Regina (20 minutes).

Friday, September 28th, 1917

Morning Session

10.00 a.m. 1. "Infant and Child Welfare Work," by Alan Brown, Esq., M.B., Toronto, Medical Director Division of Child Hygiene, Dept. of Health, Toronto (25 minutes).

10.30 a.m. 2. "The Conduct of An Infant Welfare Survey," by Miss Mary Power, Child Welfare Bureau, Provincial Board of Health, Ontario, Toronto (20 minutes).

10.50 a.m. 3. "Conservation of Child Life," by Mrs. J. A. Henderson, Montreal (15 mniutes).

11.00 a.m. 4. Discussion—Opened by Mrs. Adam Short, Ottawa.

11.40 a.m. 5. "Housing," by Mrs. A. M. Huestis, Executive Director, Toronto Housing Company, Toronto (15 minutes).

12.00 noon. 6. "Notes on the Housing Problem in England, Lessons for Canada," (with lantern slides) by F. A. Dallyn, Esq., C.E., Prov. Sanitary Engineer.

12.20 p.m. 7. "Reducing Quarantine Periods," by Captain H. W. Hill, C. A. M. C., London, Ont., (10 minutes).

12.30 p.m. 8. "Pasteurization of Milk Supply," by J. A. Beaudouin, Esq., M.D., Medical Officer of Health, Lachine, Que. (10 minutes).

Afternoon Session—General Section

2.15 p.m. 1. "The Influence of Mental Defectives on the Public Health," by Dr. Helen MacMurchy, Inspector of Feeble Minded, Ontario, Toronto (10 minutes).

2.30 p.m. 2. "Some Medico-Sociological Problems Arising out of the War," by Captain W. H. Hattie, C.A.M.C., Provincial Health Officer, Halifax, N.S.

3.00 p.m. 3. "The Provision of Custodial Care of Recalcitrant Open Tuberculosis Cases," by Captain H. W. Hill, C.A.M.C., London, Ontario (10 minutes).

3.15 p.m. 4. "The Means of Fighting Tuberculosis in the District of Quebec," by Dr. O. Leclere, Quebec.

4.00 p.m. Business meeting. Election of officers.

Friday Afternoon, September 28th, 1917

Laboratory Section

2.15 p.m. 1. "Laboratory Work at the Front," by Colonel G. G. Nasmith, C.M.G.

2. "Bacteriological Diagnosis of Typhoid and Paratyphoids by means of Homoculture and special agar-glucose lead media" by Dr. A. Vallee, Professor of Bacteriology, Laval University, Quebec.

3. "Detection and Isolation of Diplococcus intra-cellularis meningitidis," by Captain R. D. Defries, C.A.M.C., Assistant Director, Antitoxin Laboratory, University of Toronto.

4. "Technique of the Bordet-Wassermann Reaction for Public Health Laboratories" (an attempt to standardize) by Dr. H. D. Detweiler, Lecturer in Bacteriology, University of Toronto, in charge of Bordet-Wassermann Diagnosis, Labor-

atories of the Provincial Board of Health, Toronto.

5. Repart of Committee on Standard Methods of Water Analysis, by Mr. Joseph Race, Bacteriologist and Chemist, City Laboratory, Ottawa.

Reduced Rates to Delegates

One-way ordinary first-class and one-third plus 25 cents, on certificate plan, for delegates east of Fort William, regardless of number in attendance. If 100 or more are in attendance the same rates will be allowed for delegates west of Fort William, otherwise the western rates will be the regular one fare and one-third.

All delegates should purchase single fare tickets to Ottawa City and secure standard certificates, properly filled in by the local ticket agent.

When through ticket cannot be secured, a single fare ticket and a standard certificate should be secured at each junction point.

Tickets for going journey and standard convention tickets to be issued September 20th and 25th inclusive, and properly validated certificates to be honored at Ottawa up to and including October 3rd, 1917, for tickets for the return journey at one-third of the one-way ordinary first-class fare, plus 25 cents (the 25 cents to be paid to the special agent at the time the certificates are validated at the convention).

ANNUAL MEETING OF THE ASSOCIATION OF MEDICAL HEALTH OFFICERS OF NOVA SCOTIA

The third annual meeting of the Association of Medical Health Officers of Nova Scotia was held at Halifax on the 3rd of July, under the presidency of Dr. Geo. E. DeWitt, M.H.O., of Wolfville. After the disposal of routine business the Association was addressed by the Hon. George H. Murray, Premier of Nova Scotia, who is the minister of public health for the province. Mr. Murray spoke impressively of the opportunities of medical health officers. "Health," he said, "is above all other things the most important thing that can be discussed." Nevertheless, public men are compelled to deal first with matters in which the public take the deepest interest. In this material age the things which are discussed are those which appear to most immediately concern our present welfare. Our people have not yet learned how dependent material success is upon good health and consequently health problems receive too little serious consideration. The people should be instructed in the matter of health, and in this respect much responsibility of necessity devolves upon medical health officers and physicians. In his public experience Mr. Murray had found that there is no class of men who exercise a greater influence on the community than medical men. He, therefore, urged the medical health officers, and he would also urge all physicians, to do their utmost to instruct people in the importance of public health measures, and to make public men realize their importance. He had found that it was impossible to secure passage of legislation which, in his judgment would have been helpful in the public health interests, because members of parliament did not appreciate the importance of such legislation as he did. He thought in public health matters we were just making a beginning, and that there was a long, hard road to travel. Much of the opposition which would have to be overcome, being the result of insufficient information on the part of the people generally, the first step towards the realization of better things is a well-sustained effort at education.

During the afternoon session the Association was honored by a visit from His Honour the Lieutenant Governor, who listened with much interest to the papers on "Anterior Poliomyelitis," and their discussion. He spoke in very appreciative terms of the work which health officers are doing and expressed a cordial wish for the success of the meeting and of the public health cause.

There was good attendance of medical health officers, and all the papers were very fully and vigorously discussed. The papers were as follows:

"The Venereal Disease Problem," Dr.

W. H. Hattie, Provincial Health Officer, Halifax.

"The Sanitation of Factories," Mr. Philip Ring, Provincial Inspector of Factories, Halifax.

Symposium on Anterior Poliomyelitis:
(a) Experiences with an epidemic, Mr. M. D. Morrison, M.H.O., Dominion.
(b) Diagnosis, Dr. Clarence Miller, M.H.O., Stellarton.
(c) Epidemiology, Dr. A. G. Nicholls. Director of the Laboratory, Halifax.

"Some Military Experiences of a Former M. H. O." Major C. H. Morris, D.A.D.M.S., M.D. 6. Formerly M.H.O. Windsor.

"Medical Supervision of School Children," Dr. H. A. Payzant, M.H.O., Dartmouth.

President's address, "Preventive Medicine," Dr. Geo. E. DeWitt, M.H.O., Wolfville.

"Medical Aspects of the Tobacco Habit," Dr. D. Fraser Harris, Professor of Physiology, Dalhousie University, Halifax.

"Observations on the Conservation of Life." Dr. J. J. Cameron, M.H.O., Antigonish.

Resolutions were passed asking the Provincial Government to have more complete rules formulated relative to factory sanitation, and urging upon the Federal Government the desirability of establishing a Federal Department of Health and of giving immediate attention to the venereal disease problem.

The officers elected for the ensuing year are as follows:

President—Dr. J. J. Cameron, M.H.O., Antigonish.

First Vice-President—Dr. W. B. Moore, M.H.O., Kentville.

Second Vice-President—Dr. Clarence Miller. M.H.O., Stellarton.

Secretary—Dr. W. H. Hattie, P.H.O., Halifax.

Councillors—Dr. C. W. Bliss, Amherst; Dr. Bernard Francis, M.H.O., Sydney Mines; Dr. F. E. Rice, M.H.O., Sandy Cove, Digby Co.

WAR MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

A war meeting will be held at Washington, D.C., October 17-20, 1917, by the American Public Health Association. This will replace the annual meeting which was to be held at New Orleans, La., December 4-7, 1917.

The papers and conferences will deal largely with the health problems created by the Great War—the food supply, communicable diseases among soldiers, war and venereal disease, war and the health of the civil population, etc.

President Wilson has said: "It is not an army we must shape and train for war; it is a nation." Go to the Washington meeting; then come back and do your bit!

Washington will be crowded, and those interested are urged to reserve hotel accommodations at once. It will be easy to cancel reservations; but it may be impossible to obtain rooms at the last moment. Any hotel or railroad can give a list of Washington hotels.

Preliminary programs will be automatically mailed to all members of the A. P. H. A., about September 15. Nonmembers may receive them free by writing to The American Public Health Association, 128 Massachusetts Avenue. Boston, Mass.

The Sanitary Inspectors' Association of Western Canada

The Convention at Regina

By the Secretary

The convention held at Regina, Sask., 26th, 27th, 28th July, was a great success and reflects much credit on the Regina members. There was a good representation from Manitoba, Saskatchewan and Alberta, and the sessions were held in a splendid room in Parliament Buildings which was placed at our disposal by the Hon. George Langley, Minister of Municipal Affairs.

In order to help out expenses the local members provided accommodation in their own homes for visiting members. In this and many other ways the Regina members put the visitors under a debt of gratitude that will not easily be repaid; indeed they have set an example worthy of emulation by future convention committees.

On Thursday 26th, at 10 a.m., we assembled, and having registered, some routine business was transacted. An address of welcome was delivered by Dr. M. M. Seymour, Commissioner of Health for Saskatchewan, after which a luncheon was served in the restaurant of the Parliament Buildings. We were favored with the presence of Dr. M. M. Seymour, Dr. M. R. Bow, Medical Health Officer for Regina; Mayor Cowan, Commissioner Thornton, Mr. T. Aird Murray, C.E., of Toronto, and members of the Examining Board of the Royal Sanitary Institute for Saskatchewan.

Following the luncheon we had the President's address. In this address Mr. Watson struck a high note for which we gave him the hearty vote of thanks that he deserved.

We then went to the Exhibition and paid a visit to the Baby Welfare Conference and we saw here that the Saskatchewan Government is not behind in methods for preventing the high mortality among children. Unfortunately the fire which occurred the previous day destroyed the Regina City exhibit.

In the evening we had the pleasure of listening to an address by Dr. Bow on "Unusual Modes of Infection," which was most interesting and instructive, and will long be remembered by those who had the good fortune to hear it. Mr. A. M. S. Allan, of the Provincial Bureau of Health, read a paper on "Dairy Inspection," which brought out a lively discussion and this ended our first day's proceedings.

The program for Friday 27th, was opened by an address by Mr. W. F. Thornley of Winnipeg. The speaker took as his subject "The Efficient Sanitary Inspector," in which he showed us that he was a past master in his work.

After lunch we were taken to the sewage disposal plant and incinerator, under the guidance of Mr. L. A. Thornton, C.E., Commissioner. Mr. Thornton went carefully into detail in explaining these to us, and of course we thanked him for this and for placing a special car at our disposal, in which we were conveyed to both these places.

On returning to the session room at Parliament Buildings, we held the annual business meeting. After the minutes of the last annual meeting had been read and approved, we had the annual report of the Executive Committee with the reports of the various branches.

As these reports will be published in the Journal it is not necessary to refer further to them here. We had some discussion and then adjourned for supper and thereafter finished the business in hand. Never was a business meeting conducted with more unanimity than this. The selfish spirit that often characterises such gatherings was entirely absent and in its place we had the essence of brotherhood. This was especially present when we came to election of officers for the ensuing year. The President, Mr. Watson would not permit his name to be put forward for re-election, as he thought the honors of the office should go round. Mr. Thornley was elected president. The new president has brought with him the ripe experience of many years in our work, and in many other ways is eminently suited for the position which we uanimously gave him. In his address he reminded us that "there must be complete and entire cohesion if we would stand together; that we must work in the best of harmony and good understanding, as the lack of cohesion and harmony can only spell disaster." We next re-elected Mr. Stanley, of Fort William, Vice-President for Western Ontario, and as the Manitoba members had unanimously nominated Mr. A. Rigby, of Winnipeg, their vice-president, this was agreed to. Mr. F. Cartlidge, of Moose Jaw, and Mr. W. H. Appleton, of Saskatoon, were nominated for vice-president for Saskatchewan, and this was the only occasion in which we resorted to the ballot. Mr. Cartlidge, who had held this office last year with much credit, did not want to be re-elected, as he, like Mr. Watson, wanted to share the honors. The honor went to Mr. Appleton, who we feel sure, will prove a worthy chairman of this live branch. Mr. J. T. J. Vallance, of Lethbridge, was nominated vice-president for Alberta, but he withdrew in favor of Mr. J. J. Dunn, of Calgary, whom he nominated for re-election and the meeting agreed. It is a pity we have no branch in British Columbia yet, but we are still in hopes of getting a firm footing there. Messrs. J. W. Stewart, H. B. Weston, B. C. Brough, and A. W. Foote were elected members of the Executive Committee, and Messrs. H. S. Sturgess, and H. Moore, were appointed auditors. The secretary-treasurer was re-elected and given the sum of thirty-five dollars as an honorarium for his services during the last year.

After election of office bearers we were favored with an address by Dr. Seymour, on "The Importance of the Sanitary Inspector in Public Health Work." The speaker gave us some good advice, and strongly recommended us to read up-to-date text books and other works, in order that we might know our subject from a to z.

Following the above we had a very able address from Mr. T. Aird Murray, on "The Principles of Sewage Treatment," which was listened to with rapt attention by all.

The new president moved a vote of thanks to Dr. Seymour and Mr. Murray which was carried by acclamation. After both had briefly responded they left the meeting while we all rose and sang, "For They are Jolly Good Fellows," followed by three cheers.

As the hour was now late, Mr. Watson asked us whether we had any further business before proceeding to close. Mr. Allan made suitable reference to the members who are on active service, and suggested that the secretary might write a letter to each conveying the good wishes of the Association. Votes of thanks were then accorded to Mr. Watson, our immediate past president, vice-presidents, branch secretaries, members of the Executive Committee, and all others who had taken part in the work of the Association during the year. This being all the business a very pleasant meeting was brought to a close by the singing of the National Anthem with the added verse beginning "God save our splendid men."

Saturday 28th, being the last day of our convention, the committee having the arrangements in hand had reserved for us a real treat. We left Regina in the morning for Indian Head, some of us travelling in automobile and the remainder in the train. Here we had the privilege of inspecting a model farm owned by Messrs. McKay. The fact that

certified milk is produced here indicates the high standard of the premises and equipment. We were thereafter conveyed in automobiles to the Government experimental farm. Either of the above visits would have justified our coming here, but the treat of the day was the automobile trip to Fort Qu'Appelle Sanitorium.

It was a pleasure to see such a splendid institution located in almost ideal surroundings and overlooking magnificent scenery.

The arrangements were carried out with great success and it must have been very gratifying to those who had these in hand to observe how well the visitors enjoyed themselves.

In this convention we took a big step forward. Let us all keep the pace.

Fifth Annual Report of the Executive Committee for the Year Ending June 30, 1917

The Executive Committee have pleasure in submitting their Fifth Annual Report.

The Third Annual Meeting of the Association was held in the Council Chamber of the City Hall, Winnipeg, on the evening of 14th September, 1916.

As no Annual Meeting had been held in 1915, the Executive Committee in office at that time felt that an Annual Meeting should be held, if for no other purpose than the election of office bearers. (This appeared to be the view held by most of the members.) If a convention, lasting several days, had been viewed with favor it would probably have been held in Saskatchewan. Correspondence with the larger centres showed that there was no desire for a convention lasting several days. Accordingly the Annual Business Meeting above stated was held. This meeting was well attended by the Winnipeg members, while a number of members from outside points were also present. Mr. Thomas Watson, of Regina, Provincial Sanitary Inspector for Saskatchewan, was unanimously elected president, and several changes were made in the Executive Committee.

A brief summary of the business transacted at that meeting was published in the Public Health Journal of December, 1916.

One of the outstanding features of that meeting was the amendment of sections six and seven of the Constitution.

Section six, as amended, now reads: "The following shall be the officers of the Association—Patron, vice-patron, immediate past president, president, five vice-presidents, one each for Western Ontario (Ft. William to the Manitoba boundary), Manitoba, Saskatchewan, Alberta, and British Columbia, secretary-treasurer."

Section seven, as amended, now reads: "The Executive Committee shall consist of the president, vice-presidents, secretary-treasurer, and four members appointed at the Annual Meeting. The immediate past president shall also be a member of the Executive Committee."

The Rolls of Honour, for the Boys at the Front, were submitted to the meeting and the names read. The Secretary was requested to convey the kind wishes of the Association to each. This was done and several interesting letters were received in return. Since then two additional names have been added: Messrs. E. J. Saville, of Winnipeg, Man., and A. J. Peckett, of Port Arthur, Ont. Mr. Peckett was on active service for over a year before we were made aware of the fact. In this connection, we would suggest that members enlisting for active service, might advise the secretary.

Our membership at 31st July, 1916, was as follows:

Western Ontario—1 member; no associate members. Total 1.

Manitoba—32 members; 14 associate members. Total 46.

Saskatchewan—13 members; 12 associate members. Total 25.

Alberta—3 members; 3 associate members. Total 6.

A grand total of 49 members, and 29 associate members.

This year our membership at 30th June is as undernoted:

Western Ontario—1 member; 1 associate member. Total 2.

Manitoba—37 members; 11 associate members. Total 48.

Saskatchewan—19 members; 8 associate members. Total 27.

Alberta—2 members; 3 associate members. Total 5.

A grand total of 59 members, and 23 associate members.

Members on active service are held in good standing and are included in the above figures. At last annual meeting we reported twenty-one members on active service, since then the two additional names already referred to have been placed on the honor roll. Mr. Saville was present at this meeting in the King's uniform. We regret that recently he was reported "missing." It will be seen from the above list that our membership has slightly increased. More associate members are qualifying for full membership each year and this is a very hopeful sign. Five of our associate members obtained the certificate of the Royal Sanitary Institute during the year and were admitted to full membership. There are now two Examining Boards of the Royal Sanitary Institute of Great Britain in Western Canada, one in Winnipeg and the other in Regina.

During the year the Secretary has been in communication with Sanitary Inspectors in British Columbia in the hope that a branch might be established there, but so far without result.

The status and qualifications of Sanitary Inspectors has again been the subject of correspondence with the Board of Health for the Province of Manitoba. This correspondence is given in full below.

January 12th, 1917.

E. M. Wood, Esq.,
Secretary, Provincial Board of Health.
Parliament Buildings, Winnipeg, Man.

Dear Sir:—

We understand that it is the intention of the Board to apply at the ensuing session of the Legislature for certain amendments to the Public Health Act of the Province.

I am instructed to submit the following suggested amendments which the Association would like incorporated in the Act. We believe that the present is a good time to insert the requirements asked for and are prepared to appear before the Law Amends Committee and urge their adoption.

It would help very much, however, if the Association could have the support of the Board in this matter. Will you kindly bring our suggestions before the Board, or if there is not to be a meeting of the full Board before the Legislature meets, to the attention of Dr. Bell and Dr. Fraser, and oblige. Yours very truly,

(Sgd.) ALEX. OFFICER,
Secretary-Treasurer.

Amendments to the Public Health Act of Manitoba, Suggested by the Sanitary Inspectors' Association of Western Canada.

Section 2. Interpretation. Strike out S.S. (d) and insert the following in lieu thereof, S.S. (d) "Provincial Health Officer" means a Provincial Health Officer appointed under the provisions of this Act.

Amend all sections respecting Provincial Inspectors, using the term "Provincial Health Officers," instead. Sections 19, 20, 26, 31, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48 and 188. New. S.S. (definition). "Provincial Sanitary Inspector" means a Sanitary Inspector appointed by the Provincial Board of Health.

"Sanitary Inspector" means a Sanitary Inspector appointed by any Municipality.

Amend all sections dealing with appointment and duties of Sanitary Constables, using the title Sanitary Inspector in lieu thereof. (Sections 26, 31, 37, 39. Section 25. Insert the words "or Sanitary Inspectors" after the words "Health Officers" in the second line, and again in the fifth line.

Sanitary Inspectors

Strike out Section 37 and insert in lieu thereof the following:

37. The Council of every municipality

may also appoint officers to be called Sanitary Inspectors and define their duties and remuneration; such remuneration to be paid by the municipality. All persons who shall in future be appointed as Sanitary Inspectors shall be persons specially qualified for sanitary work and shall hold a certificate granted by the Royal Sanitary Institute of Great Britain; the Incorporated Sanitary Association of Scotland; the Royal Institute of Public Health, England; Victoria University, Manchester, England; (Sanitary Science Certificate) or some other recognized examining body skilled in Sanitary Science approved by the Board.

N.B.—We feel that the best interests of improved sanitation throughout the Province will be served by the appointment of inspectors duly qualified as above specified. There is an ample supply of qualified men available and an increasing number of students preparing themselves for the examinations of the Royal Sanitary Institute, which has an Examining Board located in this Province holding examinations twice a year.

With regard to changing the title of these men from "Sanitary Constable" to that of "Sanitary Inspector" this Association feels that the former name conveys more the idea of police duties instead of the much wider field now covered by the work of a trained Sanitary Inspector who should be well educated generally, with a good knowledge of the principles and best practice of hygiene and sanitation and able to assist his Health Officer and the Board in disseminating this knowledge, thus carrying on a most useful campaign of education in sanitary matters rather than performing more repressive police duty.

The title of "Health Inspector" conflicts with that of "Sanitary Inspector." We submit that the term "Provincial Health Officer" should be used to describe such officials.

There are now a large number of qualified Sanitary Inspectors at work in the Province, and who object to being described as Sanitary Constables. It is quite likely that the Province will itself shortly employ Sanitary Inspectors. We therefore suggest the following titles:

Provincial Health Officer, (now known as Health Inspector).

Provincial Sanitary Inspector. Those appointed by the Province as Sanitary Inspectors.

Sanitary Inspector. Those appointed by municipalities.

Winnipeg, 16th July, 1917.

Alex. Officer, Esq.,
Sec.-Treas. Sanitary Inspectors' Association, Winnipeg.

Dear Sir:—

Your letter addressed to Mr. E. M. Wood, re amendments to the Public Health Act to be asked for at this session of the Legislature, has been referred to me for a reply.

I have studied the accompanying memo of suggestions re the position of Sanitary Inspectors for the Province and the qualifications that you advise as being made to be necessary to secure appointment for the same. I am quite sure that any steps that would result in placing such positions on a higher plane as a consequence of the requiring of some authoritative evidence of a necessary previous training, would receive the active support of the Board.

Before dealing with the subject as a matter of legislation, however, it would be necessary to call a full meeting of the Board so that there might be an opportunity for a discussion by all its members of the very important subject, so that there might be a complete unanimity on the report adopted and submitted.

The report of the Board of Health for the past year has already been prepared, and the subjects on which we have asked legislation for the coming year submitted, by resolutions adopted as a result of the last Board meeting. I fear therefore that we would be unable to secure a meeting of the Board and have any further resolutions presented before the period has passed up to which such resolutions are received.

I will be pleased, however, at the next meeting of the Board to bring your suggestions before them, and will later communicate to you the result of the delibera-

tion concerning the suggestions submitted. Yours very truly,

(Sgd.) M. S. FRASER.
Corresponding Secretary and Provincial Epidemiologist.

A special meeting of the Executive Committee was called to discuss this matter and the following letter was subsequently sent:—

March 22nd, 1917.

M. Stuart Fraser, Esq., M.D.,
Corresponding Secretary and Provincial Epidemiologist,
Law Courts Bldg., City.

Dear Sir—

My Executive Committee have under consideration your letter of Jan. 16, regarding the qualifications and status of Sanitary Inspectors in this Province, and are extremely pleased to know that you agree with us that any steps taken in the direction of requiring proper training as a condition of obtaining appointment in such a capacity, would be beneficial, and that any legislation passed with that object would probably receive the active support of the Board.

We can readily understand that any legislation proposed must receive very careful consideration and also that the Board have been very busy on other subjects.

We thank you for the promise to bring our suggestions before the next meeting of the Board and trust that they will finally be adopted either as submitted or in a form modified to meet the views of the Board.

I might say that during the last two or three years quite a number of persons have qualified by obtaining certificates and there is always a group of men (and women) studying with a view of sitting for the examination.

We do not claim that the mere obtaining of a Nuisance Inspectors' Certificate at once constitutes a successful candidate as sanitary expert—in fact he has just begun to learn—but it is at least a start, and the successful candidates, especially if they obtain an appointment and commence to do practical work, are much easier to train and are of much greater service to their municipalities right from the start.

Moreover the mere requirement of qualifications such as we propose will have the effect of preventing the appointment as inspectors of men, often without the most elementary education, who are in no sense fitted for the work at the time of appointment, and can never hope to attain efficiency. Yours very turly,

(Sgd.) ALEX. OFFICER.

While nothing definite has yet been accomplished, we are hopeful that the Board will see their way clear to adopt our suggestions at an early date.

We would request the members to advise the Secretary of any prospective appointments in order that he may get into communication with members who are not placed. The Secretary is at all times willing to communicate with the Councils making the appointment, placing before them the principles of the Association and the advisability of appointing fully qualified men, and we are pleased to state that we have succeeded in several instances.

During the year Mr. E. C. Davies, one of our old members, resigned his appointment at Medicine Hat, Alta., and is now Sanitary Inspector at Brandon, Man. In advertising the vacancy the Brandon City Council invited applications from "Fully qualified Sanitary Inspectors."

Brandon has set a good example to other cities and is to be commended in this. Mr. S. E. Whiteside was appointed Sanitary Inspector at Medicine Hat and joined our Association. Although not fully qualified at the time of his appointment Mr. Whiteside immediately began to prepare for the examination of the Royal Sanitary Institute and we are pleased to learn that he has been successful in obtaining his certificate.

It was thought well by the Executive Committee that competitive papers on subjects relating to Hygiene or Public Health should be invited from members and associate members. Particulars relating to this were sent to all members of the Association and have been published

in the Public Health Journal. Twelve papers were received and the following were the awards made by the judges.

First prize—"Overcrowding. Why is it Tolerated?" By Thos. Watson, Regina.

Second prize—"Scavenging. Is Standardization Worth While?" By D. Little, Winnipeg.

Third prize—"Vital Statistics." By J. Martin, Regina.

Honorable mention—"Safety First." By R. McQuillan, Winnipeg.

Honorable mention—"The Flush Valve from a Sanitary Inspector's Standpoint." By A. Aitken, Winnipeg.

The judges were unanimous that the above were the five best papers sent in, but the first three were of almost equal value. For this reason they decided to give an additional prize of five dollars. We desire to thank all who sent in papers, many of which were of a high standard; these will be published seriately in the Public Health Journal.

We take this opportunity of thanking our past president, Mr. Hague, for his kindness in drawing up the splendid syllabus of subjects for the prize essay competition, and also for the "Monthly Jottings" which we feel sure are much appreciated by the members.

We congratulate the Regina members on the excellent syllabus of subjects dealt with during their last winter session. We have pleasure in printing the syllabus in full.

Founded 1913

The Sanitary Inspectors' Association of Western Canada

Patron—H.R.H. The Duke of Connaught.

Vice-Patron—Rt. Hon. Sir R. L. Borden, P.C., M.P., G.C.V.O.

Officers

President—Thomas Watson, Regina, Chief Sanitary Inspector for Province of Saskatchewan.

Immediate Past President—E. W. J. Hague, Asst. Chief Sanitary Inspector, Winnipeg.

Vice-President, Western Ontario—W. E. Stanley, Chief Sanitary Inspector, Fort William.

Vice-President, Manitoba—W. J. T. Watt, Chief Inspector of Communicable Diseases, Winnipeg.

Vice-President Saskatchewan—F. Cartlidge, Chief Sanitary Inspector, Moose Jaw.

Vice-President, Alberta—J. J. Dunn, Chief Sanitary Inspector, Calgary.

Secretary-Treasurer — Alex. Officer, Tenement Inspector, Winnipeg.

Executive Committee

President, Vice-Presidents, Immediate Past President, Secretary-Treasurer, together with R. McQuillan, Sanitary Inspector, Winnipeg; W. F. Thornley, Dep. Asst. Chief Sanitary Inspector, Winnipeg; E. C. Brown, Dairy Inspector, Winnipeg; D. Little, Sanitary Inspector, Winnipeg.

Regina Centre

Chairman—J. L. Mitchell.

Secretary—A. G. Briscoe.

Program for Session 1916-1917 Regina Centre

1916—

Nov. 10—"Heat," W. W. Andrews, LL.D.

Nov. 24—A Hat Night. Members.

Dec. 8—"Tuberculosis," T. C. Middleton, M.D.

Dec. 22—"Experiences in the Northern Part of Saskatchewan," A. M. S. Allan, A.R.S.I.

Dec. 29—Social. Members.

1917—

Jan. 12—"The Principals of Sewage Disposal," J. Russell Ellis, B.S., C.E.

Jan. 26—"Food Values," J. L. Mitchell, C.S.A.S.

"Elementary Applied Mechanics," H. D. Mathias, R.P.C., A.R.S.I.

Feb. 9—"Some Saskatchewan Health Problems, Urban and Rural," R. M. Bow, M.D., C.M., B.A.

Feb. 23—"Veterinary Inspection," Dr. McClelland, V.S.

Mar. 9—"Vital Statistics," J. Martin, A.S.R.I.

Mar. 23—"Industrialism and its Relation to Unemployment," A. Green.

Apr. 6.—"Overcrowding and Why is it Tolerated?" T. Watson, M.R.S.I.

Apr. 26.—Court Case "Overcrowding." Members.

Objects

The objects of the Association shall be: to further the advancement of Sanitary Science in its various branches and to disseminate knowledge relating thereto by any means which may seem desirable to its members; to raise the status of the profession of a Sanitary Inspector by endeavoring to secure that all persons appointed as Sanitary Inspectors, Meat, Food and Dairy Inspectors, Infectious Disease Inspectors, Visiting Nurses, or other similar positions in Health Departments shall be properly qualified for such positions by reason of having passed a qualifying examination in some branches of Sanitary Science, and to promote legislation with that object; to promote classes, schools of instruction, lectures or demonstrations in the various branches of Sanitary Science for the improvement of its members and more particularly its Associate Members in order that they may be able to qualify for full membership; to supply information regarding applicants for positions as Sanitary Inspectors to Municipal and other bodies; to study legislation regarding sanitary matters and if found desirable to recommend amendments to Health Statutes or By-laws.

The Saskatchewan Branch has always seemed to us to be very much alive and we wish them continued success in the future.

At the time this report is being prepared arrangements are in progress for a convention at Regina. Those members who were privileged to attend the last convention held there must still retain happy recollections, and we feel sure that the Regina members will rise to the occasion and give all visiting members a pleasant and profitable time.

We append hereto the report from the vice-presidents as required by Section 10, Clause 9, of the constitution.

A balance sheet, duly audited, is also submitted, showing a balance in the bank and on hand amounting to $66.65.

We desire to thank the vice-presidents, branch secretaries, and others for the hearty co-operation and assistance which they have at all times given.

Respectifully submitted,

(Sgd.) THOMAS WASTON,
President.

(Sgd.) ALEX. OFFICER,
Secretary-Treasurer.

July 16, 1917.

Chairman and Members of the
Executive Committee.

Gentlemen—

I beg to submit herewith the following report of the transactions of the Manitoba Branch of the Sanitary Inspectors' Association of Western Canada, for the past twelve months.

While not making rapid progress in growth of membership it is gratifying that the figures for the year show an increase from last year, there being 32 members and 14 associate members at last year's report, a total of 46, whereas there are now 37 members and 11 associate members, a total of 48.

Since last report the Royal Sanitary Institute have held an examination at which five candidates presented themselves and four were successful in obtaining the certificate for Inspector of Nuisances.

The members of the Health Department of the City of Winnipeg, instead of following out the policy of having lectures on sanitation as in former years, departed somewhat from the usual course and inaugurated a First Aid Class. A large number of the members took advantage of the lecture given, and eighteen presented themselves for the examination. All were successful in obtaining the certificate. The success of the class in thus obtaining a 100 per cent. pass is largely due to the amount of work, time and patience spent by the lecturers, namely, Dr. Sharman and Mr. H. B. Weston, and our thanks is due to them.

There are still twelve members of the Manitoba Branch on active service. We are sorry to state that E. F. Saville has been reported missing. Mr. Saville has been a member of the Association since its inception, and always took an active

part in furthering the interests of the Branch and the Association.

Attached is report dealing with the library transaction during the year. At a regular meeting of this branch held on July 13, the election of officers for the coming year was considered.

Mr. A. Rigby was unanimously nominated to the post of Vice-President for the ensuing year; this we feel sure will be concurred in when election of officers at the Annual Meeting takes place.

Mr. R. McQuillan who has served this Branch faithfully as Secretary during the last three years has been succeeded by Mr. Mines.

(Sgd.) W. J. T. WATT,
Vice-President for Manitoba.

Health Department,
Winnipeg, July 1917.

Vice-President, Manitoba Branch.

In submitting the report on the library transactions, I must apologize for not presenting a report for the year 1916. I purpose however, to bring the work of the library up-to-date, by including a statement for the year omitted.

As will be seen from the list of borrowings, the library has been well used, and has been of great benefit to most of the members.

You will observe there has been a slight falling off in the use of books at the disposal of the members since the last report, but this must not be taken as lack of interest, but is mainly attributable to the past winter session being taken up by most of the members taking a course of instruction in "First Aid to the Injured."

There are eight books on loan which have not been returned to me; the borrowers will be notified to bring these volumes in.

One volume loaned in December, 1914, I believe to be irrecoverable, which is to be regretted, it being an excellent text book by Egbert, on Hygiene and Sanitation.

The following books have been most in demand:

"Preventive Medicine and Hygiene," loaned ten times.

"Principles of Hygiene," loaned four times.

"Model Answers to Questions, R.S.I." loaned four times.

"The Milk Question," loaned twice.

"Handbook of Sanitation," loaned twice.

Each of the following have been loaned once:

"Milk Testing."
"Disposal of Municipal Refuse."
"Public Health Journal."
"Conservation of Coal in Canada."
"Plumbing and House Drainage."
"Guide to Sanitary Inspectors."
"Report of Convention, 1913-14."
"Prevention of Infectious Disease."

I have the honor to be,
Your obedient servant,
(Sgd.) B. C. BROUGH,
Hon. Lib.

July 14th, 1917.

Chairman and Members of the
Executive Committee.

Gentlemen—

It is again my pleasure to submit a brief report from Alberta for 1916.

At this time we are still concerned in the great war, and for your information I have lost another valuable Inspector, who has gone overseas, and the same applies to Medicine Hat.

Throughout the Province the staffs of the various departments have been depleted in this manner, and in some cases, as with this city, temporary assistants have been taken on, who are doing fairly good work; however, one misses the experienced men whom it has been my delight to coach and help these last four or five years. I have under me a temporary man, who by the way is a returned veteran, who has taken well to the work. I gave him all the assistance in my power with books, literature, etc., and he also attended a class on Sanitation held here for veterans at the Technical Institute. It was his intention to sit at an examination to be held here, but which was cancelled. No doubt in the near future he will be an applicant for membership to the Association.

At this Institute I have mentioned, I

was sorry to see that these classes were not taken up by more of the veterans. The only reason I can think of is—that some do not recognize the importance of the position. When by law every city, town or village will have to appoint qualified men, I am sure some of these will see their mistake and deplore the chances missed. I wrote some papers and gave the lecturer all the material I had on sanitation to try to foster the spirit of our Association.

Also it has been my pleasure to be of assistance to Sanitary Departments of other towns in this Province, and in two or three cases to cities across the border.

I am looking forward to the time when this awful war ceases, and my men return, to be able to undertake a bumper class here for the study of our calling (outsiders to be admitted), and then to the long looked for examination in the West. I shall spare no efforts to have Alberta well shown on the map as the home of qualified Inspectors and members of a great Association.

It is with regret, that I am not able to meet any of you this year, but when we shall be able to have a great convention. I trust Alberta will be there in full force.

I know this is not such a good report as is expected of a Vice-President of such an Association as ours, but you will most probably see that here in the West we are situated differently than you are in the more Eastern Provinces.

To any of the members who have suffered personal losses through the war, Alberta sends their heartfelt sympathy.

Trusting this report will be accepted and that the meeting will be a success.

I have the honor to be, Gentlemen,

Yours sincerely,

(Sgd.) J. J. DUNN,
Vice-President for Alberta.

Regina, Sask., July 25, 1917.

To the Chairman and Members of the
Executive Committee.

Gentlemen—

While offering this report of the transactions of the Saskatchewan Branch of the Association, I would first congratulate its members on the opportunity they have to extend a welcome to you, on your second visit to the city which you have chosen this year for your Annual Meeting.

Although meetings have been held where there has been a sufficient number of local members, only one general meeting of the branch has been possible. This was held at the City Hall, Regina, on the 7th April. Representatives from Saskatoon, Moose Jaw, Medicine Hat and Regina Cities, as well as those of the Provincial Government were present. Two important features pertained to this meeting, the first a paper read by Mr. Thomas Watson, President of the Association, entitled "Overcrowding, Why is it Tolerated?" the other a resolution unanimously passed, which resolution was based upon the matter of the paper read at Winnipeg by Mr. F. Cartlidge, now Vice-President for Saskatchewan, on the subject of "Housing." This resolution in due form has been placed in your hands. Each of these subjects gave rise to spirited discussions, and though the meeting was the only one held to this date, it must be looked upon as one highly educational and successful in maintaining interest. If in no other way than the passing of the resolution it may be claimed that our Branch has justified its existence for the year.

During the session 1916-17, the Regina Centre had sixteen general meetings, and an attractive program was successful in keeping the attendance up to a high standard. Among those eminently qualified to lecture should be named Dr. W. W. Andrews, Dr. T. C. Middleton, Dr. M. R. Bow, J. Russell Ellis and Dr. McLelland, V.S., to all of whom the Association is indebted. This was the first occasion on which the list of lectures was printed, and appreciation is tendered to the Parent Association for their assistance.

Although the fact has already been published, mention should not be omitted from this report that the Regina Branch has the distinction of having gained, through the energy and ability of Messrs. Watson and Martin, two of the prizes offered in the Essay Competition.

I am proud to say that we are not out

of touch with our gallant members who uphold the honor of their race while fighting in Europe, and that we look fondly forward to the time when we shall welcome their return to peaceful avocation.

We may hope that the early future will bring about a change in conditions which have not been favorable to progress in the Association, conditions which do not permit of frequent absence from home towns, even though our members' interest may be as keen as ever heretofore.

(Sgd.) FRANK CARTLIDGE,
Vice-President for Saskatchewan.

Balance Sheet

Abstract of Treasurer's intromissions, 1st July, 1916, to 30th June, 1917.

RECEIPTS

To balance in Bank and on hand at 30th June, 1916	$107.69
Subscriptions received	136.00
Interest on Bank account	2.64
	$246.33

PAYMENTS

The Public Health Journal	$ 61.00
Printing	15.25
Typewriting	13.20
Refunded members in lieu of Public Health Journal	3.00
Expenses in connection with Annual Meeting	3.00
Binding volume of Public Health Journal	2.00
Honorarium to Secretary-Treasurer	35.00
Prizes in Essay Competition	20.00
Postage and sundries	27.23
Bal. in Bank and on hand	66.65
	$246.33

We have examined the accounts of the Treasurer of the Sanitary Inspectors' Association of Western Canada, from 1st July 1916, to 30th June, 1917, compared the Cash Book with the vouchers and instructions, and found the whole correct; and we certify the foregoing to be a correct abstract.

(Sgd.) HARRY B. WESTON,
(Sgd.) J. W. STEWART,
Auditors.

Winnipeg, Man., 7th July, 1917.

CHANGED HER MIND

Wifey: "On your way home, will you ask that girl at the store—"

Hubby: "You mean that maiden with the blue eyes, blond hair, ruby lips, deep dimples, and graceful carriage?"

Wifey: "Oh, you needn't mind. I intended to go to town myself to-day."